8/83 T-3

FEASIBILITY STUDY SUMMARY
OMC HAZARDOUS WASTE SITE
WAUKEGAN HARBOR, ILLINOIS

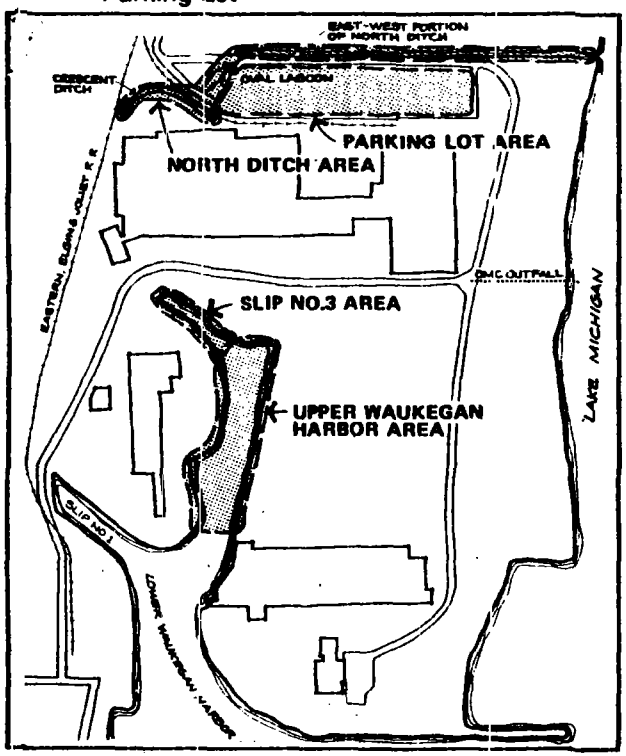
The U.S. Environmental Protection Agency (USEPA) has conducted a feasibility study to evaluate cleanup alternatives for the PCB contamination in Waukegan Harbor. The feasibility study was completed under the authority of the Comprehensive Environmental Response, Compensation and Liability ACT (CERCLA) of 1980. This summary describes the study procedures and findings that were used to arrive at the recommended cleanup alternative.

Site Description

The OMC site is located near the intersection of Girand Avenue and Sheridan Road on the west shore of Lake Michigan in Waukegan, Illinois, about 37 miles north of Chicago and 10 miles south of the Wisconsin border.

For purposes of the feasibility study, the site has been divided into four subareas (see figure below):

- Slip No.3
- Upper Harbor
- North Ditch area (which includes the Crescent Ditch, Oval Lagoon, and east-west portion of the North Ditch)
- Parking Lot



Extent of the Problem

The presence of high levels of PCBs in soil and harbor sediments in the vicinity of the OMC plant was discovered in 1976. Movement of PCBs through the groundwater and surface water has contributed to the contamination of the Waukegan Harbor and Lake Michigan. PCBs have entered the aquatic food chain accumulating in such game and commercial fish as salmon and trout.

The cleanup of PCBs in concentrations greater than 50 parts per million (ppm) is regulated under the Toxic Substances Control Act. The following areas of PCB contamination over 50 ppm have been identified:

- Slip No. 3 -- Contamination of sediments ranges from 500 ppm to 10,000 ppm; concentrations in excess of 10,000 ppm occur in one localized area. This represents an estimated 305,200 lb of PCBs in 10,900 cubic yards (yd^3) of sediments.
- Upper Harbor -- Contamination of sediments ranges from 50 ppm to 500 ppm. This represents approximately 5,000 lb of PCBs in 35,700 yd^3 of sediments.
- North Ditch Area -- Contamination of soils ranges from 50 to 10,000 ppm; concentrations in excess of 10,000 ppm occur in one localized area. This represents about 495,500 lb of PCBs in 70,800 yd^3 of soils.
- Parking Lot -- Contamination of soils ranges from 50 to over 5,000 ppm. This represents an estimated 277,700 lb of PCBs in 105,800 yd^3 of soils.

Evaluation of Alternatives

The feasibility study began with an evaluation of over 70 processes or methods to determine their potential for contributing to PCB removal. The processes retained from this preliminary screening were assembled into 21 alternatives for further study. Finally, 14 alternatives and 2 subalternatives were selected for an even more detailed evaluation. All alternatives were evaluated on the basis of the overall project objectives and criteria -- to develop remedial actions that are:

- Effective in cleaning up the site
- Technologically feasible
- Environmentally sound
- Cost-Effective

Summary of Final Alternatives

SLIP NO. 3 AND UPPER HARBOR

All final alternatives for cleanup of Slip No. 3 and the Upper Harbor would include dredging of contaminated sediments. In some of the alternatives, the dredged sediments would be dewatered to a non-flowable consistency, and then transported offsite to a licensed chemical waste landfill. The difference among these alternatives concerns the methods and amounts of dewatering that would be used.

The remaining alternatives would involve construction of a containment wall around part of Slip No. 3 or around Slip No. 3 and part of the Upper Harbor. Dredged sediments from the Upper Harbor would be placed within the contained area, which would then be capped with impermeable materials. These alternatives would employ onsite containment of contaminated materials rather than offsite disposal. A subalternative that could be used in conjunction with the containment alternative would dredge the most highly contaminated area of Slip No. 3 before containment, and dispose of these materials offsite.

NORTH DITCH AREA AND PARKING LOT

Two of the final alternatives for cleanup of the North Ditch area and Parking Lot would involve excavation and offsite disposal of contaminated soils. The difference between them is that one includes fixation (a chemical method of dewatering soil), while the other does not.

An alternative for the Parking Lot only would involve construction of a containment wall around the contaminated soil and capping of the containment area. No offsite disposal of soil would be employed.

Two alternatives for the North Ditch area only would involve construction of a containment wall around the Crescent Ditch/Oval Lagoon area. Excavated soil from the North Ditch and Crescent Ditch areas would be placed on top of the Oval Lagoon area. The containment area would then be capped with impermeable materials to seal in the contaminated soil. The difference between these two alternatives is the amount of soil that would be excavated from the North Ditch. No offsite disposal would be employed. A subalternative that could be used in conjunction with these containment alternatives would excavate the most hghly contaminated areas in the Crescent Ditch/Oval Lagoon area before containment, and dispose of these soils offsite.

Major considerations in the evaluation of alternatives for Slip No. 3 and the Upper Harbor and for the North Ditch/Parking Lot area included:

- Ability of the alternatives to achieve the cleanup objectives
- Offsite disposal versus onsite containment
- Relative cost

EPA Region 5 Records Ctr.
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Recommended Alternative

The five cleanup actions below are USEPA's recommended cleanup plan for the OMC site. These alternatives are consistent with the National Oil and Hazardous Substances Contingency Plan, which requires the selection of the lowest cost alternative that:

- Is technologically feasible
- Protects human health and the environment
- Considers the need to balance funds under the Superfund Program

ACTION 1: SLIP NO. 3 AND UPPER HARBOR

A containment wall would be constructed around the perimeter of the western portion of Slip No. 3; part of the Upper Harbor sediments would be dredged into the contained area; the containment area would be capped. This alternative would contain approximately 306,900 lb of PCBs in 21,100 yd^3 of sediments. The estimated cost is $6,100,000.

ACTION 2: SLIP NO. 3 AND UPPER HARBOR

In conjunction with Action 1, PCB-contaminated sediment, sand and silt would be dredged from the localized area near the former OMC outfall (drainage pipe). This material contains the greatest PCB concentrations in the harbor and represents 92 percent of all the PCBs now found in Slip No. 3 and the Upper Harbor. This alternative would remove, fix, and dispose of offsite an estimated 5,700 yd^3 of PCB-contaminated material, containing about 286,500 lb of PCBs. The material would be disposed of in an offsite licensed chemical waste landfill. The estimated cost for this alternative is $3,150,000.

When this action is combined with Action 1, about 15,400 yd^3 of sediment containing about 20,400 lb of PCBs would remain in the containment area.

ACTION 3: NORTH DITCH AREA

PCB-contaminated soil would be contained and capped in the Crescent Ditch/Oval Lagoon area. The North Ditch would be partly excavated to install a bypass drainage pipeline. The PCB-contaminated soil from the bypass excavation would be placed in the Crescent Ditch/Oval Lagoon area before capping the area. This alternative would contain about 492,100 lb of PCBs in 51,400 yd^3 of soil. The estimated cost is $4,210,000.

ACTION 4: NORTH DITCH AREA

In conjunction with Action 3, PCB contaminated soil would be excavated from the localized areas in the Crescent Ditch and Oval Lagoon. This material contains about 89 percent of all the PCBs now found in the North Ditch area, and about 57 percent of all the PCBs now found in the North Ditch and Parking Lot areas. This alternative would remove and dispose of an estimated 5,500 yd^3 of soil containing about 440,500 lb of PCBs. The soil would be disposed of in an offsite licensed chemical waste landfill. The estimated cost is $740,000.

When this action is combined with Action 3, about 51,600 lb of PCBs in 45,900 yd^3 of soil would remain in the containment area.

ACTION 5: PARKING LOT

Approximately 277,700 lb of PCBs in 105,000 yd^3 of soil would be contained and capped in the Parking Lot. The estimated cost is $3,210,000.

The total estimated cost to implement the above recommended cleanup actions is $17,410,000.

SCHEDULE AND INFORMATION AVAILABILITY

Copies of the Feasibility Study are available for public use at the following locations:

Waukegan Public Library,
128 N. County Sreet, Waukegan

City Clerk's Office, City of Waukegan
106 N. Utica St., Waukegan

U.S. Environmental Protection Agency,
Regional Library, 14th Floor
230 S. Dearborn St., Chicago

The public comment period begins on July 15 and closes on August 15. Written comments are invited and must reach the U.S. Environmental Protection Agency, 230 S. Dearborn St., Chicago, Illinois 60604, Attention: Marcia Carlson, before August 15, 1983. The public meetings listed below will describe the study results and provide a chance for public comment and questions. The review of the Feasibility Study is the last step before a final clean-up action is chosen.

Infomation Meeting to Describe Feasibility Study
7:00 p.m. Waukegan City
Council Chambers
106 N. Utica St. ..... July 28, 1983

Public Meeting to Discuss Feasibility Study
and Receive Public Comment
7:00 p.m. Waukegan City
Council Chambers
106 N. Utica St. ..... August 3, 1983

FOR FURTHER INFORMATION PLEASE CONTACT MARCIA CARLSON AT THE ABOVE EPA ADDRESS OR CALL (312) 886-6173

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